A BASEBALL SOCIOGAME AS A NON-REACTIVE MEASURE OF GROUP PROPERTIES

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CHAPTER I

INTRODUCTION

The purpose of this research was to develop a new experimental methodology as a non-reactive measure of group properties. Specifically, the research investigated group member status position as a function of judgments of performance by individual group members under various conditions of group solidarity. Subjects judged their own and others' performances in an unstructured stimulus situation utilizing a game derivative of baseball. Judgmental errors occurred with regard to group member's performances. The empirical investigation of the relationship of these judgmental errors to relevant aspects of group structure and solidarity were the intended task of this research. The scoring of performances in games as indices of group properties has been demonstrated by Harvey (1953), by Sherif, Harvey, White, Hood, and Sherif (1961), by MacNeil (1967), and by Davis (1970). The present research extended this literature by providing a new methodology for the non-reactive measure of group properties. Scarcity of non-reactive measures of group properties in the social sciences mandated such research.

Assumptions and Guidelines

Research utilizing natural groups is limited to a great extent by the unavailability of large numbers of subjects and by the restricted

range of sampling. The experimenter is limited to groups already established, or he must generate experimental groups. Matching across groups entails complex problems due to the lack of identical groups. Restrictions such as these limit inferences made from the obtained results.

The present study acknowledges that an individual's perception must be inferred from his behavior (judgment). Therefore, the perception of a stimulus situation inferred from judgments, with respect to various group properties, is the focus of this research.

Operational Definitions

High groupness groups (H) are those aggregates of individuals who, from their disguised sociogram responses, exemplified a high number of similar choices primarily on the first two questions (Appendix A). Group members also indicated spending much time together in many activities, and reflected much group interaction and a limited pattern of effective initiative over members.

Low groupness groups (L) are groups who from their disguised sociogram responses, exemplified a moderate number of similar choices, primarily on the first two questions. Group members also indicated spending some time together in a limited number of activities, and reflected a few examples of group interaction and a limited pattern of effective initiative over members.

Nongroup aggregates (N) are those units of individuals who, from their disguised sociogram responses, exemplified a complete lack of similar choices primarily on the first two questions with other aggregate members.

Effective initiative is the assigned position in the rank ordering of members obtained by considering responses to question number two on the disguised sociogram.

Status is each group member's position (rank) in a hierarchy of power relations in a social unit as measured by the relative effectiveness of initiative to control interaction, decision-making, and activities. It is operationally defined by the disguised sociogram response to question two, which deals primarily with effective initiative. As a dimension of role relations, status is not applicable to individuals in a nongroup aggregate.

The objective score is the actual score obtained in the sociogame performance determined by recording the location of hits on the target by the experimenter. These scores are not known to the subjects.

The judgment score is the number assigned to each particular throw of an individual by every participating member including the thrower.

Judgmental accuracy refers to the rank ordering of group or nongroup aggregate judgments obtained by adding all deviations from the actual scores and dividing by the total number of group or nongroup aggregate members.

The judgmental error is the numerical judgmental departure from objective reality, obtained by subtracting the objective score from the judgment score.

The judgmental rank is the assigned position in the rank ordering of members obtained by considering both the direction and magnitude of judgmental errors.

Sociogame Behavior

Group behavior studies found in the work of Harvey (1953), MacNeil (1967), and Sherif, Harvey, White, Hood, and Sherif (1961) utilized systematic variations in judgment as measurable elements of an individual's behavior. Inferences were then made to variables pertaining to the group.

The subjects' participation in a social stimulus situation provided the setting in which these behaviors occurred. The term "sociogame", coined by Davis (1970), provided simplicity and utility in expressing commonalities of research methodologies in the investigation of social and behavioral variables.

> A sociogame, then, is an experimental social stimulus situation of competitive or recreational context, employed to elicit quantifiable elements of behavior, usually judgments of stimuli of a relatively low degree of objective structure, for the purpose of studying group related behavioral variables (Davis, 1970, p. 2).

CHAPTER II

REVIEW OF THE LITERATURE

The following discussion looks at the terms natural and experimental groups, conformity, roles, status, and groupness, respectively, with a primary focus on a single theory. The terms are examined because of their potential influences on the dependent variable, judgments, and examined with a primary focus on the Sherifian viewpoint because of its ease in relating to the present methodology.

Clarification of Terms

Natural and Experimental Groups

According to Sherif and Sherif (1969),

> A group is a social unit consisting of a number of individuals who stand in role and status relationships to one another, stabilized in some degree at the time, and who possess a set of values or norms of their own regulating their behavior, at least in matters of consequence to the group (p. 131).

However, with this definition no distinction is made between "natural" groups and "ad hoc" formal groups. To compensate for this imprecision, the experimenter offers the following. Natural groups differ from experimental groups in their formation, purpose, and member selection. Natural groups form spontaneously, serve primarily

the needs of the members, and allow individuals to join through intragroup agreement. Ad hoc or experimental groups are usually formed by persons in or out of the group with some power over the members for a specific purpose, serve primarily to perform a task related to the purpose, and accept individuals into the group more readily. Cooley (1909) considered primary group members to have close personal ties with one another, emphasizing face-to-face interaction and spontaneous interpersonal behavior. Cooley defined secondary groups as more impersonal, characterized by contractual relations, and identification with the group as not an end in itself, but a means to an end. The experimenter assumes natural groups to be closely related to primary groups and experimental or ad hoc groups to be closely related to secondary groups. The present research utilized both natural and experimental groups, the natural groups represented high and low groupness groups and the experimental groups represented nongroup aggregates.

Conformity and Deviation

To draw exact definitions for either conformity or deviation is difficult, and even more difficult to define these terms in reference to their being polar opposites. For example, Marlowe (1971) states that the opposite of conformity is taken by some individuals to be independence, by others to be rebellion, or counter-conformity, anti-conformity, non-conformity, or deviance. Kohn (1969) defines conformity as following the dictates of authority, focusing on external consequences to the exclusion of internal processes, being intolerant of non-conformity and dissent, being distrustful of other

individuals, and having moral standards that stress obedience to the letter of the law. Marlowe (1971) interprets this as resulting in a condition of life that allows little freedom of behavior or little reason to feel in control of fate. Rollo May (1963) stated that the individual who displays conformist thinking does so as a result of conflict between the inner and outer forces. This indicates that the person has yielded in his judgments under group pressure. May felt that these individuals were incapable of coping effectively under stress, had feelings of personal inferiority and inadequacy, lacked openness and freedom in emotional processes and possessed deficiencies in cognitive processes.

Festinger's (1954) Group Locomotion Hypothesis states that groups are always moving toward some goal, thereby establishing certain conformity pressures to achieve this means. Social Comparison Theory, another of Festinger's (1954) contributions, states that group members exert pressures on individuals to conform in order to maintain social reality, but deviants tend to destroy the social reality, making it impossible to maintain a positive self-evaluation. Balance Theory (Heider, 1958) refers to a continued balancing or directing of negative and positive sentiment toward either the deviant or the conformist.

These discussions of conformity or deviation in the literature have reflected stress on different aspects of the concept for the purposes of illustrating a point of view or for advancing a unique methodology. The present research focuses on the Sherifian definition of conformity for the same reasons.

Sherif and Sherif give a useful definition for these terms:

> ....conforming behavior or deviating behavior means that the behavior in question falls within the latitude of acceptance or within the latitude of rejection defined by a norm (or set of norms) prevailing in a social unit of which the individual is defined as a member with some role and status in the organizational scheme (p. 181).

Roles and Expected Behaviors

A discussion of roles is important in the present research because of the concept's influence on judgmental behavior, the dependent variable. The concept is examined by looking primarily at exchange theory which comprehensively examines the concept. Supporters of Exchange Theory feel that role differentiation is determined to maximize the rewards and minimize the costs experienced by interacting individuals. According to exchange theory, the role an individual assumes is contingent upon the reward-cost outcome he perceives.

Secord and Backman define role behaviors as

> ....the behaviors of an actor that are relevant to the role he is performing. These behaviors may or may not conform to expectations (1964, p. 457).

Therefore conformity would be determined by the degree to which a role description conforms with role behavior.

Krech defines a role associated with a position as what a typical occupant of a given position is expected to do (1962, p. 310), position being defined as a category or persons occupying a place in a social relation. Taking a similar position, Ullman and Krasner define a role as a series of interrelated behaviors appropriate to a given situation and learned through past experience (1969, p. 70).

According to Secord and Backman, role expectations are the attitudes and behaviors that a person associates with a role position. Secord and Backman (1964) define two aspects of expectation: the anticipatory nature of expectations and the normative quality of expectations. To provide smooth functioning in social interaction, each individual anticipates the behavior of the other person. This anticipation helps shape and guide his behavior. When two individuals have certain shared expectations in common, shared expectations about the other's behavior arises, thus taking on an obligatory quality.

A role according to Sherif is tantamount to the expected behavior of an individual in the scheme of established reciprocities of the group (1956).

This comprehensive coverage of roles adequately encompasses its utilization in the present research. In a high groupness group, exchange theorists feel that individuals are under obligation to cooperate with others to satisfy other group members' needs. Which role an individual assumes is presumed to be a result of the reward-cost outcome he perceives. Exchange theory relates to the present study in various aspects. Role expectations should be more clearly defined and conformity to role expectations should be higher in higher solidarity groups than in lower solidarity groups due to the anticipatory and obligatory qualities of role expectation (Secord & Backman, 1964).

Status within Groups

Status structure is frequently used to determine an aspect of group structure. Zalenski and Moment (1964) state that status is

based on a group member's ability to influence other members, and can be measured by observing the attempts at influence over a series of interactions. The position of members in the status structure can be determined by taking the successful influence acts and dividing them by the number of influence acts attempted. The outcome is used to determine each individual's position in the status hierarchy. The highest position in the hierarchy would be the leader, with other members being positioned below him. The individual emerging to the leadership role is the one who is capable of increasing the rewards members experience (Hollander & Julian, 1969).

Status is defined by exchange theorists as the worth of a person as estimated by the group members. High status members reward other group members through their uncommon rewarding attributes. The more an individual is perceived to possess rare rewarding attributes, the higher his status will be (Secord & Backman, 1964, p. 297). Also, status is likely to be perceived in a global fashion: individuals high on one dimension may also be seen as high on others (Secord & Backman, 1964, p. 302). High and low status individuals support the same values so as to provide internal resistance to change. Therefore, individuals are allowed and encouraged to perform in a manner appropriate to their status position (Secord & Backman, 1964, p. 305). Exchange theorists also hold that status is accorded to individuals on the basis of values and needs held concurrently by group members, whereas liking is based more on unique values and needs (Secord & Backman, 1964, p. 307).

The discussion of status in the literature has reflected stress on different aspects of the concept for the purposes of illustrating a

point of view or for advancing a unique methodology. The present research focuses on the Sherifian definition of status for the same reasons. The Sherifian definition of status provides a useful definition for status in the present research.

Status refers to a member's position (rank) in a hierarchy of power relations in a social unit (group or system) as measured by the relative effectiveness of initiative (a) to control interaction, decision-making, and activities, and (b) to apply sanctions in cases of non-participation and non-compliance (Sherif, 1969, p. 140). Status in the present research focused primarily on the relative effectiveness of initiative to control interaction, decision-making, and activities.

Groupness

A discussion of groupness and its related concepts, solidarity, cohesiveness, and integration is important in the present research because of the concepts which influence on the dependent variable, judgmental behavior. The concept is examined first by looking at what each related concept entials and then how these are related to the research.

Solidarity. Solidarity has been defined in many ways, but is primarily noted as the functional effectiveness in attaining group goals and is one aspect of a more inclusive term "groupness," which is discussed in a following section.

MacNeil (1967), on solidarity says:

> Solidarity, then, is an objectively determinable attribute of groups. It reflects, and is reflected in, the individual attitudes of each group member toward other members and himself, in regard to contributional dependability in goal attainment (1967, p. 29).

Once group structure has begun to stabilize, group members evaluate the importance of the group to them as a means of achieving satisfaction. The importance a group has for its members, and the group's perceived necessity as a means of satisfying the members' needs, will determine to a large extent the degree of solidarity a group achieves (Cartwright & Lippitt, 1964; Zalenski & Moment, 1964; Sherif & Sherif, 1968). In fact, factors that have been found conducive to solidarity are a sharing of feelings and experiences by members, a willingness by members to participate in the group (Zalenski & Moment, 1964), the perception of an external threat (Reeves, 1970), internalization of norms by members, agreement on the goals and methods of obtaining the goals (Tiffin & McCormick, 1965), and subordination of personal goals (Prentice, 1961).

Solidarity then deals primarily with the functional effectiveness of the relationships within a group in attaining group goals and is one aspect of a more global term "groupness."

Cohesiveness. Cohesiveness has been defined in many ways, but is probably most noted for its correlation with interpersonal attraction or the affective structure within a group. Definitions of group cohesiveness make operationalizations very difficult, if not virtually impossible. For example, Cartwright and Zander (1960) defined cohesiveness as a "resultant of all the forces acting on all members to remain in the group." With definitions such as this, operationalizations using interpersonal attraction or mutual liking among the group members as factors reveals that measures have focused on very limited aspects of the total phenomena. Others, such as Festinger, Schacter, and Back (1950), defined group cohesiveness as a ratio of the proportion of

one's friends in the group (or building) to one's total number of friends.

Exchange theorists (e.g., Homans, 1961; Thibaut & Kelley, 1959) define attraction in terms of the degree to which persons achieve in their interaction with others a reward-cost outcome in excess of some comparison level. Contributing to the need gratification of others is considered a reward. Incurred punishments, deterrents in interacting with another person, and rewards missed because of the interaction consistitute costs. One's comparison level is influenced by past experiences in the relation and comparable relations, perceptions of what others similar to oneself are receiving, and perceptions of rewards and costs in alternative relations. Those members who provide maximum rewards and minimum costs to group members receive more choices in an affect measuring device (Secord & Backman, 1964).

Clearly, the concepts have applications in group settings. However, a major criticism of exchange theories is that no sufficient criteria have been defined which would determine what is rewarding or nonrewarding for any given individual. Another criticism of exchange theories is that the theories have not improved predictability in the area of interpersonal attraction. Perspectives viewing cohesiveness primarily by group members' friendship choices neglect implicating factors such as the functional interdependencies among group members, normative coercion, or outside-the-group factors. Feldman (1968) suggests that substantive changes in one or more of the various bases of interpersonal attraction do not necessarily alter the groups overall cohesiveness. Viewing group cohesiveness as composed of many more factors than just interpersonal attraction

implies that no correlation necessarily has to exist among the composing factors. In fact, it just may be that certain factors may operate independently of one another.

Integration. Thus, consideration of the separate constituents of solidarity and cohesiveness, such as the functional effectiveness of attaining group goals and interpersonal attraction can be unproductive when the goal of research is to investigate the processes of varying levels of a larger term which includes more than these constituents. In that case, a concept can be employed which admits that the problem of identifying "groupness" components and their interrelationships has not been solved. Feldman makes such an attempt using the term integration.

Integration has been defined as the amalgamation "of separate entities into a cohesive whole which is something different from its parts" (Fairchild, 1944). Feldman feels that to adequately define and conceptualize the terms, one must look at the functional bases or components of each and uses the term integration to refer to the consistency and channeling of behavior among members in the group. Feldman (1968) breaks group integration down into normative integration, functional integration, and interpersonal integration. Normative integration as described by Feldman (1968) refers to the degree of consensus among group members concerning a number of group relevant behaviors. Feldman suggests that normative integration does not necessarily presuppose the existence of strong affective ties (i.e., cohesiveness) among the members of the group. He notes, in fact, that Hiller (1947) has suggested that the genesis of norms represents an effort to evade affectional relations.

Functional integration according to Feldman (1968) refers to the degree of complementary specialization among group members and to their effectiveness in performing goal attainment, pattern maintenance and tension management and external relations. The goal attainment function is the accomplishment of whatever goal or goals the members of the group decide upon, either specifically stated or implied and relates closely with the aforementioned concept of solidarity. The pattern maintenance function refers to the maintenance of smooth and consistent relations among members of the group. External relations refer to the ability of the group to establish and maintain harmonious relations with outside groups.

Interpersonal integration refers to the reciprocal liking of group members for one another according to Feldman and relates closely with the concept of cohesiveness. Interpersonal integration is accepted as only one facet of group integration, and a person's inter-personal integration is said to be determined to a large extent by how one likes others in the group and how others in the group like him. Feldman has found that mutual liking among group members and the effective dispersion of functional responsibilities among group members appear to be integral concomitants of each other. It was also noted that functional integration and interpersonal integration were correlated. These results indicate that the level of symbiotic specialization among members of the group and the effectiveness with which the different members perform the functions of goal attainment, pattern maintenance, and external relations appears to be a crucial factor in determining the extent of reciprocal liking within the group. Reciprocal liking is also determined by the number of group-

relevant norms; the more there are, the more the reciprocal liking among members of the group. Another very interesting finding of Feldman is that how much consensus there is regarding norms does not necessarily determine the group effectiveness in accomplishing those norms.

There also appears to be sex differences in the extent of group integration. In the girls' groups studied by Feldman (1968) there tended to be a higher level of integration than among the boy's groups studied (groups in summer camps). Functional integration may also be partially governed by the size of the group and the degree of integration within a group differs according to the environmental settings. One can also see from the statistics obtained in Feldman's study of groups in summer camps that the three reflectors of integration each evaluate differing aspects of group relationships. However, certain methodological problems in Feldman's work such as the use of the same response for determining two different criteria, could have possibly produced higher correlations in his data and therefore contaminated the results.

Groupness. The term groupness used by Sherif is another global term referring to group properties such as cohesiveness, solidarity, and more. In fact, the term groupness may be more than the sum of these parts.

Groupness, according to Sherif, is a matter of degree. Initially, there is interaction among a number of individuals. The degree of groupness here is minimal. After stabilization of role-status relationships and norms there is a higher degree of groupness than before the stabilization. Sherif refers to a

collection of individuals as forming a group to the extent that its role and status relationships are stabilized and that its norms and values for behavior are shared by the group members and binding on them.

With this in mind Sherif characterizes the effect that the group has in molding the individual members' attitudes and behaviors. This is determined by how firmly established the member's role and status expectations are and how stringent the members accept the norms.

The consistency, stability, and strength of the relative stability of the role structure and of the group members' reciprocal expectancies affects whether or not one member can influence the other group members' actions. The degree of groupness within a given group is related to how important its activities are in the lives of the members, to the tenure of association of the group, and to how well the group handles problems together or works to achieve mutual goals. This type of examination of groupness led Sherif to believe that groupness could be studied effectively if the group was stabilized over time, and that correct analysis of the groupness of the group would have to include the structure and normative properties of the group and would also need to measure how important and how broad the activities of the group are to the members.

Thus, groupness is certainly not unidimensional; it is very complex. To adequately assess the groupness of a group one must have multiple indicators.

Eisman (1959) found no significant correlation between interpersonal attractiveness and mean group attractiveness. This finding supports the view that friendships within the group and similar values between members are not the crucial variables in determining groupness.

Future findings will probably find that the groupness of a group may only be measured by multiple indices and then fall short operationally. The present research utilized the length of time the group had been together, the affective relationships within the group, and the value of the group in the individual's frame of references as indices of groupness.

Theoretical Basis for the Study

Introduction

The present research is not a crucial test of theoretical differences but is a demonstration of group judgmental phenomena operating in an unstructured stimulus situation. Therefore, the present research does not rule out any particular theory. Person perceptions theorists, impression formation theorists, implicit personality theorists, attribution theorists, and cognitive consistency theorists appear to be more concerned with the development and use of attributions by individuals in situations where group structure cannot be inferred, whereas the present research primarily interested in making a statement about an individual's behaviors under conditions of varying groupness. This reflects the possibility that hypotheses appropriate to individual judgments in groupness situations have not been deduced by the theorists mentioned above, therefore making it awkward to make deductions in the present research. Elaborations of this point take place within each theory's discussion. It is for these reasons that the author prefers the Sherifian viewpoints. The following discussion examines person perception theories, attribution theories,

impression formation and the implicit personality theories, cognitive consistency theories, and the Sherifian viewpoint respectively.

Person Perception

Person perception refers to the individual's processes involved in estimating the external and internal states of other individuals. Tagiuri (1968) states that person perception not only involves the judgments about people, but objects as well, and is primarily concerned with the impressions we form of people as people.

Person perception focuses specifically on a perceiver's selection, in which one attends only to the set of relevant stimuli impressing on him and disregards a large amount of extraneous stimuli. The perceiver structures his experience to insure that only certain stimuli are perceived in order to categorize and to recognize. Subsequently, this largely influences one's behavior toward others, which, in turn, influences how others behave toward the perceiver. Integration within a group provides the perceiver with experience which influences his categorization process and produces structure in his perception of others. The everchanging behavior of other group members is perceived and categorized as if the members possessed certain invariable physical and personality characteristics.

Interaction within a group providing cooperative relationships enhances the like reaction toward stimulus individuals and consequently influences a perception of that individual. Although person perception theorists have not deduced hypotheses appropriate to individual judgments in groupness situations it might be assumed that role and status relationships gradually become established to enhance cooperative

relationships within the group. As the leader assumes decision making responsibilities and sanction-imposition responsibilities, he becomes gradually perceived as one having a personality congruent with performing leader-like tasks and is classified as such by the perceivers (group members). Group members assume different positions within the group, thereby becoming classified by other group members as having certain personalities which correspond to particular responsibilities and roles. These cooperative relationships increase expectancies. The existence of these expectancies suggests that each individual attempts organization of his experience.

In terms of the present research the abilities of each individual must be considered. There would perhaps be different outcomes between a high status individual with poor athletic and judgmental ability and a high status individual with excellent athletic and athletic judgmental ability, the latter case being the more likely to be overestimated. In addition, how important athletics are to the group (expressed in values and norms) might in some cases limit attainment of high status positions to only those individuals with athletic prowess.

Due to the fact that the leader assumes a personality congruent with leader-like tasks such as decision-making there would be higher agreement among group members as to his performance than others. If other group members actually accept his decisions because he is leader, then it is quite reasonable to expect a higher degree of agreement on his performance than on others. Whether or not the performance of high status members would be overestimated or underestimated would not be of primary concern.

The author also contends that person perception theorists would not predict high groupness groups to be any more judgmentally accurate than lower groupness groups, but would predict greater agreement in a high groupness group than in a lower groupness group. This also would depend upon the group members' acceptance of their roles and statuses.

Attribution Theory

Heider's (1958) theory of attribution states that individuals predict and control their environment through their perceptions of it. Heider assumes that there are commonalities between the processes of object perception and person perception. People may be seen as attempting to anticipate the effects which their behaviors have on the environment and themselves.

Heider assumes that man perceives his own behavior as caused, and that the causal locus can be in either the perceiver or in the environment. People therefore may be perceived as loci of causality. Most individuals control and determine part of our actions, and we perceive others as having similar powers (Hastorf, 1970). Heider's position is incapable of making concrete, unequivocal predictions for actual situations. However, Jones and Davis assume, as does Heider, that behavior has effects, and that the perceiver attempts to account for the causes of behavior in terms of its effects. The perceiver attempts to infer what effects the actor has created, and thus infers dispositional properties to the person. They also state that the actor is cognizant of his behavioral effects, and his ability to create those effects.

Kelley's (1967) attribution analysis stresses that self-attribution does not necessarily have to differ from attribution of others. The implication of self-attribution theory is that if an individual cannot explain his behavior by referring to external force, then he looks inward. When the individual does so, then situational forces are most likely to be weak and vague.

In terms of the present research, people observe an individual's actions, and then attempt to explain why he did what he did. Heider (1958) states that this is the same as making causal inferences about why the behavior occurred. While Jones and Davis (1965) refer to this process as organizing the behaviors of others into intent-act-effect units, self-attribution theorists state that when external forces are weak, we infer internal causality as present.

Harold Kelley (1967) states that attribution theory deals with how people answer the "why" question. In order to answer causal questions individuals utilize information and arrive at causal inferences such as "Property X characterizes Entity Y." How the individual utilizes past and present information to arrive at causal inferences is of central import to Kelley and the present research.

Kelley states that the attributor observes and responds to the covariation between the observed effect and its possible causes. In a group with highly stabilized roles and statuses, the attributor has information from multiple observations, whereas, in a non-group aggregate the attributor only has information from a single observation and responds only to a set of conditions at a given time. Kelley states that although the attributor responds to the aforementioned covariation, the true pattern of covariance for possible

causes and effects may be concealed or distorted due to the outcome of inter-personal behaviors, regardless of accuracy.

In terms of the present research, high status individuals may be assumed to have had much past success due to their abilities and effort. Others, therefore, attribute internal causality to the individual's behavior (throwing a ball). Concomitant with past success might also be others' judgments of the validity of that individual's judgments. In the present research an individual throws a ball at a target, makes a judgment of his performance and is consequently judged by others. If an individual's response is associated distinctively with the stimulus, if there is consensus among all individuals present, and if the individual's responses have been consistent over time, then his judgment may be considered a valid response, a successful judgment, and therefore agreed with by others. In terms of more specific predictions, there would be more judgmental agreement on the high status individuals than on others.

If it is the case that individuals who make valid judgments can be assumed to be high status members, that their responses are associated distinctly with the stimulus, that there is consensus among others as to this, that the individual's responses are consistent over time, and that others are influenced by individuals who make valid judgments, then it is the author's contention that attribution theorists would predict that high groupness groups will make judgmental errors less in magnitude than lower groupness groups. Due to the fact that judgmental validity is partially determined by the accuracy of the individual and that this individual influences other group members, this group's total judgmental product should

be more accurate than a group whose members rely more on their own judgments than on valid judger's judgments. There should also be more agreement in high groupness groups than in lower groupness groups.

Impression Formation and Implicit Personality Theories

Concomitant with the perception of attributes in others is how accurate one is in assigning attributes to others. Most of the recent research in person perception has focused on this aspect of information processing. On the basis of a few traits of an individual, one classifies and infers other traits. Perceptual information processing is impression formation and encompasses the assumptions of similarity, implicit personality theory, and stereotyping.

Solomon Asch proposed two general theories of impression formation. The first theory was a variant of an additive model and suggested that the quality of the final impression effected the quality of each trait. For example, if the final impression is favorable, then each trait will be perceived as favorable. The second theory, the one Asch most preferred, stated that traits are immediately organized to form a whole, or Gestalt, the final impression being more than the sum of the parts. To test his theories, Asch (1946) performed a series of experiments in which subjects were presented with a list of traits characterizing a particular person. They were to write a paragraph summarizing their impressions of the individual. Asch then told the subjects to select from opposing traits, the one they thought consistent and appropriate. The results supported the Gestalt position. Asch confirmed many times over his view that there are

central traits or pieces of information about the stimulus person which dominate the impression, around which other traits were organized for their meaning.

Bruner and Tagiuri (1954) asserted that impressions of others are the result of inferences generated by a naive, implicit theory of personality. People appear to have an intuitive sense of which traits are associated with which other traits. The traits attributed to other persons in forming impressions of them are those which appear to be compatible with what is actually known about them. These complement the implicit perception of the person's personality. In accuracy studies this was viewed as an artifact. Hastorf and Bender (1952) provide evidence that the projection of similarity occurs when subjects merely take part in studies. Perceivers attempted to project their own characteristics onto others and implicitly assume that others were similar to themselves.

Bruner, Shapiro and Tagiuri (1958) gave subjects conflicting traits and observed the resulting inferences. They demonstrated that from knowledge of each of the individual traits the final impression could be predicted. Wishner (1960) then reinterpreted the original Asch experiments and clearly showed that from knowledge of the relationships among traits we can predict response traits from stimulus traits. He also defined a central trait as a trait that is central to the extent that it correlates highly with the response trait. Thus, it appears that the implicit personality theory is simply a correlation matrix among traits.

When we have perceived a person's behavior similarly many times and have inferred similarly the causes of the behavior, then the

feeling of understanding may result. This occurs primarily when we perceive that certain traits are correlated. A behavior appears to be familiar because we have seen it before and because it implies other behaviors. Implicit personality theories and the assumed correlations between traits which individuals utilize are generalizations from our own and others' behavior (Hastorf, Schneider, & Polefka, 1970). When applied to others these generalizations are tantamount to stereotypes.

When placed in an unstructured stimulus situation such as the present research and required to judge other group members' performances, an individual, according to impression formation, would perceive the individual's performance as fitting into a category. Due to the lack of external anchors, the judgment would largely be a product of the stereotype in which the individual was categorized. The author speculates that the judgment, according to impression formation would include such traits as athletic ability as perceived in the past, or other traits correlated with such. Impression formation appears to place stress in making judgments about an individual as a result of a matrix of influences. Properties of perceived groupness should play a major role in the impression matrix. This study was based on the expectation that individual judgments would reflect identifiable perceptions of group structure. Thus, impression formation would predict overestimation of high status group members, underestimation of low status members, the magnitude of such relationships varying systematically with groupness. In addition, they would also predict a negative correlation between the judgmental accuracy of the group or nongroup aggregate and the groupness of that

group or nongroup aggregate, both predictions which result from the presumed influence of groupness on the impression matrix.

Cognitive Consistency

Cognitive consistency theories also consider perception and incorporation. Cognitive consistency operates primarily on the hedonistic assumptions that man strives to maintain or maximize his relative position in the environment. Man attempts to maintain stability, balance and consistency among his existing beliefs, perceptions, attitudes, etc. When instability exists, each individual utilizes certain techniques to resolve this inconsistency.

Dissonance is defined as an aversive drive state which occurs whenever an individual simultaneously holds two psychologically inconsistent cognitions such as two ideas, beliefs, or opinions. Festinger (1957) states that: "Two elements are in a dissonant relation, if considering these two alone, the observe of one element would follow from the other." Assuming the occurence of dissonance to be unpleasant, individuals attempt to reduce it either by adding consonant cognitions or by changing making cognitions more consonant with each other. Dissonance theory does not assume that man is a rational animal. Dissonance theory suggests that man rationalizes inconsistencies to appear rational to himself and to others. Dissonance theory is notorious for its lack of formal terms, specific predictions and operational definitions.

Festinger (1957) feels that dissonance is, in part, influenced by past experience. The magnitude of dissonance which arises from a particular situation is proportional to the number of relevant

elements that are dissonant to each other and the relative importance to the individual of those elements. As the magnitude of dissonance increases, there is a greater tendency to reduce the dissonance. Festinger suggests that to reduce dissonance one may change a behavioral cognitive element, or change an environmental cognitive element, or add new cognitive elements.

The basic term, cognition, is defined as that which is understood by belief, opinion, attitude, etc. The identification and measurement of cognitions are not specified. The experimenter's assumptions determine the existence of a given cognition and what its basis may be.

Cognitions interact only if relevant to one another. Cognitions may support one another, act together, produce tangents, form aggregates, contradict one another, modify one another, or conflict with one another (Festinger, 1957). Thus, relevant cognitions may be consonant or dissonant with one another. Consonance implies mutual consistency, and dissonance, inconsistency.

In terms of the present research, dissonance theory would assume that the individual would avoid dissonant-producing information, thereby following closely the normative expectations within the group. Factors derived from group properties, initially external to an individual group member, reside in the individual as "internal attitudes" or expectancies which "form social references scales for the individual" (MacNeil, 1967, p. 4).

By conforming to the established norms governing the group members' roles and statuses, dissonance would not be increased. Deviating from these norms would mandate sanctions in the form of punishment by the group leader, thereby increasing dissonance. It

is presumed that a group member will selectively expose himself to information which would not increase dissonance. If the external physical stimulus situation has little structure, then the individual would abide by his existing stabilized cognitions and conform to the group norms.

Sherif and Sherif (1969) postulated concepts such as an individual's psychological structuring and "immediate frame of reference," and perceptions of stimulus situations. The immediate frame of reference denotes the totality of interrelated external factors in the situation and internal factors arising from the individual that are operating at a given time (p. 33). For example, structured stimulus situations set limits to alternatives in psychological patterning and vice versa. This could easily lead to the individual's overestimation of high status members' performances in the sociogame, and underestimation of lower status members' performances.

Dissonance theorists would perhaps predict that there would be a high degree of agreement among members of high groupness groups than among low groupness groups. Deviation from norms in high groupness groups would mandate sanctions in the form of punishment by the leader, therefore, members would conform or agree to avoid the sanctions. Whether or not high groupness groups would be more or less accurate than lower groupness groups would not be of primary significance.

The Sherifian Viewpoint

The present study focused interest specifically on "norms" and "status." According to Sherif a norm is an evaluative scale designating an acceptable latitude and an objectionable latitude for behavior,

activity, events, beliefs, or any other object of concern to members of a social unit (1969, p. 141). Chang (1973) discussed norms in the following way:

> Social norms, prescribed or proscribed, informal or formal, possess the following properties: 1) They do not necessarily refer to the average behavior of members. 2) They are evaluative and arbitrary. 3) Social norms are standardized generalizations which apply to classes of objects. 4) Social norms designate a latitude of behavior acceptable or not acceptable. 5) Social norms have a tendency to be persistent and stable. 6) Social norms can be changed. 7) Social norms vary in size of latitude, and intensity of sanction when violated. 8) Social norms exist in every society and any enduring human group.
>
> "The existence of social norms can be inferred from 1) Observed regularities in attitudes and behavior of members, 2) Increasing convergence toward a range of behavior, 3) and Sanctions in cases of deviation.
>
> "The general psychological tendency is toward structuring of experience and establishing a frame of reference. The frame of reference is involved in many or all of the major fields of psychology: in sensory phenomena, in perception, in affectivity, in memory, etc. Thus, people in a state being torn by conflicting norms or values (a state of normlessness), are conducive to heightened suggestibility.
>
> "Social interaction over a time span is a necessary condition for the emergence of social norms. Norms are typically formed in conditions lacking objective structure in some or many aspects (existence of alternatives). Social norms are inevitable because social regulations of behavior and attitude become necessary vehicles for solving problems and needs satisfaction.

Sherif (1936) performed a series of laboratory experiments on norm formation in an unstructured situation (the autokinetic) which utilized the apparent movement (omnidirectionally) of a single point of stationary light in a completely dark room. The stimulus used was a tiny, stationary point of light seen through a small hole in a

metal box located in a dark lab room. Results revealed that an individual alone in the AK established a norm (range and point) subjectively, and that this norm persisted over time. When individuals with previously established individual norms were placed together in the AK, their norm medians tended to converge. The resulting norm was a joint product of all the participants.

When a collection of individuals interacted initially with no previous experience in the AK, a social norm peculiar to the laboratory group was established. The consequent convergence was greater than when a lone individual established a norm. When an individuals with a previously established social norm was studied alone in the AK the social norm established with the group tended to persist.

Thus, the formation of common reference points or anchorages exemplifies the psychological tendency in norm formation. An objective anchorage exposed to the individual appears to determine his structural relationships of the experience. When such an anchorage does not exist, the individual will perceive the unstructured situation from his own internally evolved anchorages. The aforementioned research supports the argument that internalized social norms become primary factors in determining or changing his subsequent reactions to the situations. The experiments suggest that a norm emerging in social interaction is dependent upon the quality of the interaction.

Walter (1955) found that reduced variability of individual judgments occurred in the AK from session to session. This confirms earlier observations of a psychological tendency toward stabilization for

judgment in an unstructured stimulus situation. Attempts at measuring the internal attitudes concerning the group pose problems because of frequent reluctance to reveal them to outsiders, and, in fact, by the individual's being unaware of their existence. For these reasons, indirect methods of investigation have been deemed necessary in order to keep subjects relatively unaware that they are participating in research concerning group properties. For example, an unstructured stimulus situation which lessens the influence of external factors in the individual's immediate frame of reference may be utilized to enhance the contribution of internal factors, thereby focusing the measurement problem.

The physical stimulus world presents objective properties and relationships that determine the type of psychological patterning which results when the individual attends to them. When the properties and relationships are specific, intense, or compelling, the alternatives for psychological patterning are limited. There is little variability among individuals in the method by which such structured stimulus situations are experienced and responded to (Sherif & Sherif, 1969, p. 30).

In unstructured stimulus situations, alternatives in psychological patterning are increased (Sherif & Sherif, 1969, p. 30). Many objects and events in the stimulus realm appear to be ambiguous, complex, and rapidly changing. Differences in what is attended to and differences among individuals in their experiences, motives, and attitudes can produce great distinctions in the way people perceive and size up the situation. The individual's part in the patterning of experiences is larger. Therefore, individual differences in

experience and behavior are increased (p. 30). Consequently, the more unstructured the external situation, the greater the contribution of internal factors (including internalized social values and standards) (p. 31). Also, the more unstructured the stimulus situation, the greater the effectiveness of (external) social influences (solutions, communications, suggestions) that offer an alternative for psychological patterning. Internal factors and experience are inferred from behavior.

One cannot directly observe another's desire or experience. Operations occurring within the individual must be inferred behaviorally, verbally or non-verbally, in relevant stimulus situations. Considering the aforementioned statements with regard to internal and external factors, behavior will reveal measurable effects of internal factors, as well as external stimulus factors.

Sherifians would assume that an individual group member's behavior appears to be a product of internal factors, such as motives, memory of past experiences, ego-attitudes, desires, ambitions, emotions, states of the organism, socially derived attitudes, and language concepts. These are affected by psychological processing in association with external factors impinging on the individual such as the immediate external situation, the social setting, objects, persons, groups and cultural products. The present investigation focused primarily on the internalized group norms, which are reflected to a greater degree in the individual's perception of (physical) unstructured stimulus situations or in social conditions

or other settings which offer alternatives easily affected by the individual's internal factors, i.e., expectations in regard to probable performance.

In terms of the present research, factors derived from group properties originally external to an individual reside in the individual as "internal attitudes" or expectancies which form social reference scales for the individual. Utilizing an unstructured stimulus situation enhances the experimenter's tapping of the individual's internal factors.

Along these lines, MacNeil feels that:

> Reciprocal expectancies are relatively persistent internal factors jointly interacting with other pertinent internal and external factors to determine each individual's psychological structuring, i.e., perception of a social stimulus situation (1967, p. 4).

Expectancies as related to the present investigation refers to the individual group member's estimation of his and the other group members' contributions toward group goal attainment and the concomitant perceiver contribution of each member. The existence of these expectancies suggests that each individual attempts organization of his experience.

Accepting the Sherifian view as the prime theoretical base for the present research has several advantages. One advantage is that the Sherifian approach adequately encompasses the present research theoretically. In contrast to the theories of person perception, attribution theories, impression formation theories, etc. the Sherifian view places primary emphasis on group properties which influence group members' judgments. This is essential in

order to comprehensively encompass the author's hypotheses. Using the Sherifian view has the additional advantage over others in making specific predictions in situations where group parameters are employed. Sherifians would predict that high status group members would be overrated, low status members underestimated,and the magnitude of such would vary systematically with group solidarity. High solidarity groups are predicted to make larger magnitudes of error than low solidarity groups or nongroup aggregates respectively.

Results of Empirical Studies

Whyte's (1943) classic study of street gangs revealed that high status group members usually incited group activities, especially those in which they excelled, and that within the group, high status members were perceived as being superior in most tasks. Whyte found that when the group took interest in bowling, low status members who bowled well when apart from the group bowled in an inferior manner in relation to other group members, thus their performance correlated with group expectations despite their making strong effotts to improve their performance with the group and their protests that they could do better.

Asch (1955) demonstrated that when the external physical stimulus situation was relatively unstructured, external social factors such as a majority were weighted more heavily in the frame of reference. Thus, an individual's judgments of relative lengths of lines in comparison to a standard line were significantly influenced by social pressure when in the presence of a confederate majority. Zajonc reviewing Asch's study stated:

> Solomon Asch (1962) found conclusive evidence that adult human subjects imitated a judgment that they knew contrary to facts, contrary to what they perceived, or both. Asch obtained this imitation of false judgments without reinforcing the "models" for their responses and without reinforcing the subject for his.
>
> In one of Asch's experiments, subjects-adult college students-were required to compare the length of a "standard" line with one of three "comparison" lines. Both the standard and the comparison lines were in plain sight of the subjects, and the judgments were relatively easy. The length of the standard varied from 1 to 9 inches. Among the three comparison lines, one was always the same length as the standard. The other two comparison lines differed from the standard by ¼ - 2½ inches. The results of Asch's experiments were astounding. In the absence of a false majority, subjects were able to achieve about 93% accuracy in their judgments. However, subjects exposed to the false judgments of the experimenter's confederates reached only 67% of accuracy-a 26% drop.
>
> When subjects are allowed to make their judgments privately and are not required to announce them aloud, the amount of yielding goes down somewhat (Deutsch and Gerard, 1955), but it does not disappear (p. 37-39).

Harvey (1953) studied the relation between status and judgments of predicted future performance within a group having high, middle, and low status members. Members of ten groups estimated each of their group members' probable scores in a dart game before each game. Findings revealed that high status members' performances were consistently overrated, and low status members were less subject to overestimation with a tendency toward underestimation. Harvey (1954) also studied the relation between group properties and judgmental behavior through having natural groups of college girls judge one anothers' performances under conditions of distraction where the subjects recorded place names while listening to nonrelated recorded

texts. Other conditions included having friendly outgroups present or hostile outgroups present. Harvey found that in the presence of hostile outgroups,the ingroup members' performances were overestimated more than when the group performed without any outgroups present, i.e., the effect was intensified. In the presence of friendly outgroups, the overestimation was not significant. These findings were reported by Harvey as increased group solidarity in the presence of negatively rated others. Harvey also found that correlation between status within groups and judgmental errors increased positively in the presence of hostile outgroups.

Sherif (1961) found that when two groups competed in a bean collection task and judged the number of beans collected by their ingroup when viewing a surrogate standard, overestimation of the ingroup and underestimation of the outgroup occurred.

Sherif (1961) studied experimentally formed groups of boys in the Robber's Cave experiment. The subjects threw handballs at a relatively unstructured, archery-type (bulls eye with rings) target and judged their own and others' performances within the group. Findings were that the direction and magnitude of judgmental errors were directly related to within group status and that correlation appeared to increase with higher solidarity groups. Solidarity per se was not studied in this experiment.

MacNeil (1967) studied the relationship between solidarity, judgmental behavior, and status. High and low status members were observed in high and low solidarity groups utilizing both the autokinetic situation and the "shotgun range" situation, the latter having subjects judge the number of shot holes in a surrogate target

(rabbit) resulting from group members' performance with a shotgun. In both cases an "experienced" member selected according to his status position, and who had been previously indoctrinated with an arbitrary norm was present. Indoctrination in the judgment situations occurred in training sessions with ad hoc groups, using majority pressure by peers who were actually confederates collaborating with the experimenter. To determine the relative "power" of the "experienced" member's status position, the degree of acceptance of the indoctrinated member's judgments by the group was utilized. All indoctrinated members exerted some influence on group members due to the fact that they were perceived as experienced. Findings demonstrated that in high solidarity groups, high status members exerted the greatest influence on other group members and that low status members exerted lesser influences. In low solidarity groups both high and low status individuals exerted approximately the same influence. Interpreting these findings revealed that solidarity as a group factor efffected the relative power of individuals in various status positions.

Davis (1970) utilized an unstructured target approximating a regulation baseball strike zone, and studied the relationship between group solidarity and judgmental errors which occur when group members judge their own and other group members' performances. Using natural groups, Davis examined the relationship between sociogame behavior and status position within groups. Davis found systematic relations between status position and judgmental errors, between the group's judgmental ranking of each individual and his self rank, and in total accuracy of judgment. All of the relationships varied systematically under differing conditions of group solidarity.

A compelling question for the social scientist is to define the parameters of the relationship between group factors such as groupness status, and judgmental bias. In order for the social psychologist to effectively investigate the individual's experience and behavior in relation to social stimulus situations, he should gain knowledge of the interrelations of group properties such as groupness, status, and judgmental bias. To accomplish a task such as this necessitates the development of new methodologies of non-reactive measures of group properties. The present investigation attempts to develop such a methodology.

CHAPTER III

PROBLEMS AND HYPOTHESES

The relationships between group member status, groupness, judgmental errors, and nongroup aggregate characteristics have not been inspected fully. The present investigation was designed to study the relationship of group solidarity to judgmental errors which occurred when group members judged their own and other group members' performances in a baseball sociogame situation. The investigation of the relationship between the status positions of individuals within the group, sociogame behavior, and judgments of performance was of major priority. The correlation between the actual performance of each individual and the subsequent judgments by all participating group members provided the basic data of analysis. These data were derived and studied under varying conditions of groupness.

In order to present a social stimulus situation which ranked high in realism and importance to the subjects, and which gave an objective measure of the subject's actual performance, a baseball sociogame was constructed. An unstructured stimulus situation for subjects and provisions for an objective measure of the subject's performance were inherent in the design.

Judging one's own and others' performance in the baseball sociogame provided a situation comparable to functions of pitcher

and umpire in baseball. Baseball was selected as the game to be used due to its popularity among American youth.

The Specific Problems Investigated

When group members from high groupness groups (H) and low groupness groups (L) as well as individuals from nongroup aggregates (N) judged their own and other fellow team members' performances in a baseball sociogame, errors occurred. The errors were studied in relation to the following specific problems:

1. In high and low groupness groups (H,L), what is the relationship between the status of an individual and judgmental errors?

2. What is the relationship between judgmental accuracy and groupness?

It is hypothesized that the behavior of individuals in a sociogame is systematically related to certain of their group properties, and that groupness is a contributing variable in the magnitude of such relationships.

Hypotheses

The following hypotheses concerning the relationships among certain group properties and sociogame behaviors were asserted:

1. There is a positive correlation between judgmental errors and status position, the magnitude of such relationship varying systematically with groupness.

2. There is a negative correlation between the judgmental accuracy of the group or nongroup aggregate and the groupness of that group or nongroup aggregate.

CHAPTER IV

METHOD AND PROCEDURE

The locale where this research was conducted was a midwest land grant university which recruits students primarily from within the state. The students number approximately 20,000 including the graduate body. The author enjoyed a special relationship with a portion of the fraternity system as a housefather to a small fraternity. This provided the author with excellent opportunities for formal and informal observations.

Subject Selection and Classification

A disguised sociogram (Appendix A) was utilized to determine the group's membership, status structure, and groupness. Classification for the groups consisted of two high groupness groups (A and B), two low groupness groups (N and P), and two nongroup aggregates (C and D), the classification being determined by the results of the sociogram.

The high groupness groups selected for participation were members and pledges of a small fraternity. The low groupness groups came from a college class which was divided into sections at the beginning of a semester, and tested approximately three months later. The nongroup aggregates members were individually selected from different classes, the size determined by the size of the high groupness group.

The sex of the participants were primarily determined by availability, and was not controlled also. Each group participated on different days.

During the execution of the sociogame, the subjects were not made cognizant that their social relationships were under observation. The subjects were given a purported rationale for the sociogame. To assure privacy, the names of the subjects who participated in the research are referred to by an identity number in the thesis and are in the confidential care of the experimenter. Two experimenters were present during the research at all times. The groups were not designated in any way which would enable identification of the individuals or the group.

High Groupness Groups (A and B)

The high groupness groups selected for participation were male fraternity members and fraternity pledges within a fraternity with whom the experimenter had extensive knowledge of. One group was composed of fraternity members who had known each other for at least year with some relationships exceeding four years. The groups contained the fraternity president, the vice-president, two old members, and a new member. The five members who completed the disguised sociogram gave a total of 50 sociometric choices of which 7 revealed preference for one another in the group and 22 revealed preference for other fraternity members or pledges. The members revealed spending an average of 62% of their time with fraternity members or pledges and 4 out of 5 preferred spending their time with group members rather than others. Nicknames, private jokes, and other common products of group interaction were present thus indicating

groupness. Groupness was also reflected when the members were called as a reminder of their appointment. The members coerced those who volunteered to show up as a group thus binding the group as a whole to specific commitments. However, two members who volunteered did not show up or give reasons ahead of time for their absence and were not sanctioned later by any of the members.

The other high groupness group was composed of male fraternity pledges who knew each other for at least four months, lived together in the same rooms, shared the house chores, and did many activities together outside the house. The pledge class had no officers or official status categories. Of 74 sociometric choices there were 8 preferences for the group which threw and 22 for other fraternity members and pledges. The pledges indicated spending an average of 60% of their time together and 2 of 8 preferred being with group members rather than others in their free time. There were no nicknames or private jokes revealed but all of the pledges who volunteered showed up.

Low Groupness Groups (N and P)

The low groupness groups chosen for participation were male and female classmates, who for a semester were broken down into groups to work on class projects. From the disguised sociogram responses of one group of seven individuals it was learned that 6 of 7 preferred to be with individuals outside their group in their free time. Of 58 sociometric responses 4 revealed preferences for members within the group, and 48 to others outside the group. The group spent less than 1% of their time together. This group was not identifiable as

members of a social unit and used no nicknames. When asked questions as a whole, there was little agreement as to who would respond for the group as a whole. All who volunteered showed up.

The low groupness groups were nearly identical. Of 65 sociometric response for seven individuals one preference indicate an affective choice for a group member. The group indicated spending less than 1% of their time together and 6 of 7 preferred others outside the group to be with in their free time. The group used no nicknames, but all volunteers showed up.

Nongroup Aggregates (C and D)

The individuals composing the nongroup aggregates were males and females selected from different classes at a university. All who participated revealed that they did not know or know of any other team members. Of 76 sociometric responses for individuals no affective choices for team members were indicated. No nicknames were used nor were any other reflections of groupness indicated. The other nongroup aggregate was composed of seven individuals who were strangers. Of 59 sociometric response no affective choices were made for other team members nor was there any indication of status or role structure for the team.

Groupness Determination

The degree of "groupness" of the group was determined by sociogram responses, such as the length of time the group had been together, the affective relationships within the group, and the value of the group in the individual's frame of reference as measured by

the sociogram responses. Groupness was determined by adding the rank orderings of each group to the following questions and then ranking the results. The high groupness groups received rankings 1 and 2, the low groupness groups received rankings 3 and 4, and the group aggregates received rankings 5 and 6. Groupness was determined by the responses among within group members to questions regarding time spent together, and to the concluding question on the disguised sociogram. The responses were then ranked in terms of magnitude. Information was provided by the individuals' responses to question 1 by comparing the persons ranked to the group members and obtaining a fraction. Ranking the fractions provided the necessary information. Average time together was found by adding each member's estimate of group tenure, dividing this sum by the number of members, and then ranking. Responses to the concluding question were useful in determining groupness by adding the number of members choosing the group, dividing this figure by the number of group members, and then ranking. An example of the disguised sociogram is provided in Appendix A.

Judgmental accuracy was determined by adding deviations from the actual score together disregarding sign, then dividing this sum by the number of judgments per cell times the number of cells. These numbers were then rank ordered.

Status Determination

Status determination within the group was made according to the sociogram responses. A first choice to question 2 was given a weighting of 4, a second choice a weighting of 3, a third choice, 2, and all

others, a weighting of 1. The responses were than ranked ordered and status consequently determined. High status members received a ranking of 1, next higher status member a ranking of 2, etc. The lowest status member receiving a ranking equal to that of the group size.

Apparatus

The baseball sociogame used in the present research, a derivative of Sherif's (1961), presented an unstructured stimulus situation, as perceived by the subjects. A brown cloth covering insured the lack of judgmental anchors or reference points. An objective scorer located behind the sociogame could accurately determine which scoring area of the target received the impact of the ball through reading the "flag," which was released via a mechanical feature. The magnitude of the score correlated with its value counterpart in baseball; the highest score (5) corresponded to the corner of the strike zone; the next highest (3) corresponded to the middle of the strike zone; a lesser value (1) corresponded to pitches adjacent to the strike zone; and the least value (0) corresponded to all other pitches. A pitch striking between scoring areas could also be indicated to the "actual" scorer. A diagram of the scoring areas, "edge" strips, and dimensions are indicated in Appendix B. Innovative features of the sociogame target included its portability, durability, including being rust-proof and shock resistant, accuracy, and operability, requiring minimally one experimenter to operate the entire sociogame.

A spatial diagram of the complete sociogame is indicated in Appendix C. A classroom was chosen as the site for the research

due to its seclusion from distractions, its protection from the weather, and its environmental uniformity. Two different sized balls were used due to the ball being thrown at different speeds.

Experimental Procedure

Each group participated in isolation from other groups or individuals. Conveying the superficial purpose of the sociogame as well as the scoring areas and procedure, upon the group's arrival was accomplished by the experimenter saying:

> What we are going to do today us to see how well each of you can judge the pitches thrown just as an umpire does in a game. A pitcher is most effective in baseball if he can pitch in the corners of the strike zone rather than the center. Therefore, (pointing to a diagram of the strike zone and adjacent areas) pitches in the corner of the strike zone will be given a score of 5. Pitches in the center of the strike zone a score of three, and pitches outside the strike zone a score of 1. If the ball misses the target completely, the throw will be repeated and not scored. You will each throw two sets of five pitches. After each throw, the pitcher will give his judgment first, then each of you will individually judge his pitch in order, always the same order. You will take turns throwing in the same order that you call out your judgments.

Two practice trials were then given with the experimenter throwing.

The objective (actual) scores were recorded by an experimenter's assistant located behind the target. The judgments by the group members were recorded by the experimenter.

Following the completion of the sociogame, the disguised sociogram (Appendix A) was administered to that respective group or aggregate. Instructions prior to the administration of the sociogram were:

> Now, I would like each of you to fill out this questionniare. Please sit where the pencils and questionnaires are. The information obtained from this questionnaire is strictly confidential so that no one will ever know how you answer except me. If you have any questions, please feel free to ask at any time. There is no hurry. Please take your time and answer these questions as carefully and accurately as you can."

The sociogram pertained generally to the sociogame activities, but included general information as well. The responses to the sociogram helped enable the experimenter to determine the group's status structure and membership mentioned earlier.

CHAPTER V

RESULTS

Individuals having varying degrees of established social relationships judged other group member's performance in this research. The measurement of these judgments satisfied requirements for the concept of status. Normatively derived expectancies, which develop through goal directed interpersonal interaction, largely affect an individual's perception of performance. Judging other's performances in relatively unstructured stimulus situations reflects a tendency away from scores objectively determined toward scores reflecting status rank. The amount of displacement has, in fact, been utilized in determining the relative groupness of groups in previous research.

Testing these concepts required a quantifiable measure of judgmental error and an operational determination of groupness. An actual score for each pitch was obtained by recording from the target mechanisms which area was hit by the ball. Judgments of other group member's performances in a baseball sociogame and objective recordings of each thrown were the raw data of this research.

The subjects were 42 members of six treatment groups, with each group qualifying for one of three solidarity categories. The

direction and magnitude of judgmental errors and the respective relationships to status and groupness of the groups were of primary interest in the research. The complete matrix of objective and judgmental scores for every subject is presented in Appendix D. All judgments were considered valid.

Judgmental Rank and Status

Hypothesis 1 states that a positive correlation exists between status position within a group and judgmental rank, the strength of which varies directly with groupness. The judgmental rank was determined by the rank ordering of members with respect to the magnitude and direction of judgmental errors and is presented in Appendix D. Total judgmental errors received (and the corresponding) judgmental rank are shown by status position, and groupness category presented in Appendix D.

The sociogram results obtained from the question regarding effective initiative reflected definite delineations as to who ranked in the top status position for both high and low groupness groups. There were no ties in the high groupness groups and there were ties in the rankings below the top position in the low groupness groups. Therefore, definite delineations in terms of effective initiative were reflected in the high groupness groups, and to a lesser extent in the low groupness groups. By definition, the nongroup aggregates had no substantial status positions and left blank the effective initiative question by choosing the alternative statement indicating not having knowledge of anyone in their "group."

The Pearson product moment correlation coefficient for status and judgmental rank for the pooled high groupness groups was -.07 and for the pooled low groupness groups was .23. Using Fisher's r to z transformations, and consequently a z test, the correlation between status position and judgmental rank (contrary to prediction) was found to be not significant (z=.36, x=.05, 1-tailed) (See Appendix E). Therefore, Hypothesis 1 was not supported.

Judgmental Accuracy and Groupness

Hypothesis 2 predicted that judgmental accuracy should increase with decreasing groupness. The sociogram results reflecting groupness provided an adequate delineation between high and low groupness groups. High groupness groups indicated spending 62% (A) and 60% (B) of their time per week together. Both low groupness groups (N and P) reflected spending less than 1% of their time per week together. When choosing between doing an activity with members of their group or with a person or people outside the group, 80% of the high groupness group A, 25% of the high groupness group B, 14% of the low groupness group N, and 14% of the low groupness group P chose doing an activity with group members. Nongroup aggregates did not answer that question. because they did not know anyone in their "group." In response to the question regarding what one person the individual would most like to be with, on a scale of 10, the high groupness group A reflected a mean of 4.4, high groupness group B, 2.75, low groupness group N, .571, low groupness group P, .14, nongroup aggregate C a mean of 0, and nongroup aggregate D a mean of 0. These three indices of groupness distinctly differentiated between groups of differing groupness and substantiated the author's observations.

The judgmental accuracy was determined by summing the deviations from the actual scores regardless of sign for each group or nongroup aggregate and is represented in Appendix F. Therefore, high scores represented lower accuracy and vice-versa. The pooled high groupness group mean was 48.84, the pooled low groupness group mean 85.00, and the pooled nongroup aggregate mean was 75.6. A 2 tailed t-test between the pooled high groupness group and the pooled low groupness group was significant ($t=3.03$, $df=25$, $x=.05$). Therefore, Hypothesis 2 which predicted that judgmental accuracy should increase with decreasing groupness was not supported. In fact, judgmental accuracy tended to increase with increasing groupness.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Persons performing together on a common task and judging one anothers' performances inevitably leads to (judgmental) errors occurring, especially in an unstructured stimulus situation. The recreational situation contrived for the present research was derived from the game of baseball and intended for the study of social relationships among individuals.

The relationship between groupness and patterns of judgmental errors was of interest in the present research. Systematic variations in judgment were expected but not found in relation to the status position of the performer. The relationship between judgmental accuracy and groupness was found to be significant between high and low groupness groups in one case, but in the direction opposite to that expected.

As a modification of the Sherifian handball throw, the baseball sociogram used in the present research served as an unstructured stimulus situation. Members of high groupness groups, low groupness groups and nongroup aggregates made judgments of their own and others' performances in pitching a ball at the sociogame target. Members observed and then judged each throw as: 5 for each hit on the corner of the strike zone; 3 for a center hit (in the strike zone); 1 for a near miss; and 0 for a wide miss. Both judged and

actual scores were recorded after every throw. Judgmental errors including the direction, magnitude, and pattern of such were computed and analyzed.

Subjects were college students in Oklahoma. The high groupness groups were composed of fraternity members, one group being members and the other group being pledges. The low groupness groups were students in the same class who were broken down into groups at the beginning of the semester and worked together on class projects and subject matter. These groups were run as subjects at the end of that semester. The nongroup aggregates were students selected from different classes who, when questioned, indicated that they did not know or know of anyone else in their respective group. Objective determinants of status and groupness were received from disguised sociogram responses.

Discussion of Experimental Results

Due to the lack of objective structure in the sociogame and to the response alternatives, judgmental errors including internal attitudinal factors occurred. Throughout the sociogame, enthusiasm and enjoyment appeared to predominate. All members of the groups and nongroup aggregates cooperated fully and never questioned the underlying purpose.

The results of this research did not support previous findings and as indicated in the following paragraphs, supported only one prediction made in the introductory theoretical chapter. It is the author's contention that these findings did not accurately reflect theoretical distinctions primarily because of methodological

weaknesses. Following the theoretical discussion is a methodological discussion which the author feels primarily accounts for the obtained results.

Hypothesis 1

Findings regarding the positive correlation between judgmental errors and status position within groups was not supported. Group members did not overestimate the performance of high status members nor did they underestimate the performance of low status members. Instead there was no systematic correlation between judgmental errors and status position.

Person perception theorists might explain this as reflecting the expected differential outcomes when athletic and judgmental abilities vary. For example, they would predict different outcomes between a high status individual with poor athletic and athletic judgmental ability and a high status individual with excellent athletic and athletic judgmental ability, the latter being more likely to be overestimated. If this had occurred in the present research or if athletics were very important to the groups in terms of values or norms, then the author's predictions could have been confounded.

Person perception theorists, attribution theorists, and perhaps consistency theorists would predict more agreement among group members on the high status person's performance than on other's performances (the lower the status, the less agreement). The author examined this possibility by determining the percent of agreement among group members for each member's performance excluding the judgment of the individual performing. The status rank of the

individual was then compared to this agreement percentage rank by using Spearman's rank-difference correlation coefficient, and then a subsequent t-test (with N-2 df). Results of high groupness groups A and B were not significant, ($p > .05$, $t_a = 3.182$, $t_b = 1.201$, 2-tailed, df = 3, 6 respectively). Results concerning low groupness groups N and P were likewise non-significant ($t = .573$, 1.92, $p < .05$, 2 -tailed, df= 5,5 respectively). These findings did not support the above contention that there would be more agreement among group members on the high status person's performance than on other's performances. Although these findings did not support this contention, methodological weaknesses such as a small number of throws or the questionable groupness of the groups may have confounded these results also.

Impression formation theorists, cognitive consistency theorists, and supporters of the Sherifian viewpoint would make approximately the same predictions. They would predict that there would be overestimation of high status members, underestimation of low status members, the magnitude of such varying systematically with groupness, and that there would be a negative correlation between the judgmental accuracy of the group or nongroup aggregate and the groupness of that group or nongroup aggregate. These predictions were not supported.

It is suggested by the writer that the small number of throws for each individual did not provide an adequate sampling of judgmental errors. In many cases individuals who were highly overrated on the first set of throws were underrated on their second set of throws, thus lending some support to this notion. The groupness of the high groupness groups may have also been questionable. Although high in relation to the low groupness groups, the high groupness groups because

of their fraternity affiliation may not as a small group have been highly stabilized with respect to roles and statuses. The members chosen were a sample of the total fraternity membership and the pledges chosen were a sample of the total pledge membership.

Previous research has supported the idea that in unstructured stimulus situations internalized group norms measurably influence an individual's judgments which the individual otherwise makes with greater objectivity. It has also been shown that these internalized group norms operate with measurably less intensity in lower groupness groups. The present research did not significantly support these previously supported hypotheses.

Hypothesis 2

Analysis of the magnitude of judgmental errors by groupness categories revealed that members of high groupness groups judged more accurately than did those of other categories. These findings did not support the hypothesis that there is a negative correlation between judgmental accuracy and the groupness of a group or nongroup aggregate. Instead, a positive correlation was found between judgmental accuracy and the groupness of high and low groupness groups. Findings in that same positive direction occurred between the high groupness groups and nongroup aggregates.

Person perception, attribution, and impression formation theorists have predicted that there would be greater agreement among high groupness groups than low groupness groups as to judgments regarding group members' performances. The author examined this possibility by determining the percent of agreement among group members for each

member's performances excluding the judgment of the performer. A mean for each group was then calculated. By visual inspection of the data there does not appear to be any significant differences and if so would be in the direction opposite to that predicted. High groupness group A had a mean of .834, group B, .799, low groupness group N, .833, and group P, .860. These findings did not support the above prediction.

The reasoning from attribution theories that higher groupness groups would more accurately judge member's performances than lower groupness groups was supported. It appears from these results that the high status group member may make valid judgments and that the group members are influenced by this. Therefore the group's judgmental product will be more accurate in higher groupness groups where there is greater consensus as to who is the leader or best judger.

The Sherifian viewpoint was not entirely supported in the present research. However, these findings may still support the idea that internal psychological factors within individual members function as distorting influences in the patterning of experience in judgmental behavior. It is suggested by the writer that the high groupness groups were an athletically inclined type placed in a judgmental situation where their umpiring skills were being tested and then consequently suppressed many distorting influences. This coupled with the idea that the high groupness groups were only high in groupness relative to the other groups and nongroup aggregates suggests inherent methodological weaknesses in the selection of groups.

Findings that high groupness groups are judgmentally more accurate than low groupness groups or nongroup aggregates does not

rule out the possibility that overestimation of high status members and underestimation of lower status members may occur. Judgmental errors may be systematically related to status regardless of the magnitude of errors.

Although the obtained results did not support the hypotheses, it is the author's contention that inherent methodological difficulties confounded the results. The apparatus itself may not have provided adequately an unstructured stimulus. Because of only four possible alternatives, the structure may be too great. This point is stressed because the distance from which individuals make judgment is about 24 feet. With only four alternatives and a short distance, the individual may be provided with a stimulus which is not ambiguous enough. The figure presented to the subjects as a representation of the target and its scores may also add to this.

Another possible source of contamination may be the use of ten throws by each individual without a warm up period. This may not produce an adequate representation of "true" judgments. After making judgments, the subjects are instructed to fill out a questionnaire. Because of their wish to be through with the experiment, many fill out the form inadequately by not reading the questions carefully.

In addition, the analysis used is deficient because of its loss of sensitivity. In a high groupness group, it is the author's contention that high status members are overrated and low status members underrated. By using the present analysis no account is made of these two categories alone. The correlations of middle status people

with judgmental error may be poor, therefore significant correlations may be buried in the analysis.

Recommendations for future research in this area would include providing a more unstructured stimulus, increasing the judgmental distance, providing more alternative responses, the use of a larger number of throws, a warm-up period, provisions for insuring proper responses to the sociogram, and the use of a different analysis.

Implications for Future Research

The use of the sociogame as a method for measuring status and groupness has compelling merit for the social sciences. Although the present research sociogram did not support hypothesis supported by past research, methodological difficulties may have been to blame. The development of a simple sociogame could replace the established sociogames. As shown, previous research has supported the view that high status group members will be overestimated, low status group members will be underestimated, and the magnitude of such varying systematically with groupness. Although previous supportive research utilized differing types of sociogames, the present sociogame has yet to be established as effective. Establishing the present sociogame for such would provide advantages to the social scientist such as portability, durability, ease in operability, and objectivity.

Prior research with the use of sociogames has also shown that high groupness groups commit a greater number of errors than low groupness groups or nongroup aggregates respectively. However, the present research intended to show that high groupness groups commit

greater magnitudes or error than low groupness groups or nongroup aggregates respectively. The present research attempted to utilize more of the available information than previous research by looking at both number and magnitude in order to give a more accurate representation of group behavior.

Although the present research did not completely demonstrate differences in judgmental accuracy between low groupness groups and nongroup aggregates, observations were in the predicted direction. Future research may support the significance of this test.

Resumé

A baseball sociogame in which members of high groupness groups (H), low groupness groups (L), and nongroup aggregates (N), judged their own and others' performances was conducted. The patterns of errors analyzed from the judgments were not found to be systematically related to group status ranks and groupness. Findings included:

1. Judgmental rank, produced by the direction and magnitude of errors, was found to not be significantly related to the status positions in high groupness groups, low groupness groups, or nongroup aggregates.

2. Members of high groupness groups judged more accurately than members of low groupness groups. However, high groupness groups judged more accurately than nongroup aggregates but not significantly more ($p < .05$).

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APPENDIX A

DISGUISED SOCIOGAME

NAME _____

Of all the people you know anywhere, what one person do you most like to be with? List in order and do not include yourself.

BEST _____

NEXT BEST _____

" " _____

" " _____

" " _____

" " _____

" " _____

" " _____

" " _____

" " _____

Considering the question you just answered, do you think the one person at the top of your list would also put you at the top of their list? _____

When you get together with time on your hands and nothing in particular to do, who in the group you are with today has the best ideas about what to do and how to do it? List in order and be sure and include yourself.

BEST _____

NEXT BEST _____

" " _____

" " _____

" " _____

" " _____

" " _____

" " _____

" " _____

" " _____

I do not know anyone in this group. _____

Including yourself, who do you think judged the best today? List in order.

BEST _____

NEXT BEST _____

" " _____

" " _____

" " _____

" " _____

" " _____

" " _____

" " _____

" " _____

IF YOU WERE NOT PREVIOUSLY ACQUAINTED WITH OTHER MEMBERS OF THE GROUP YOU WERE WITH TODAY, DO NOT ANSWER THE REMAINING QUESTIONS.

Who is the newest group member?_____

How long has he been with the group? _____

How much time per week is this group together? _____

How many people in your group show up when you do things together?

_____

Who are they? List and include yourself.

_____

_____

_____

_____

_____

_____

_____

What activities do you do together?_____

_____

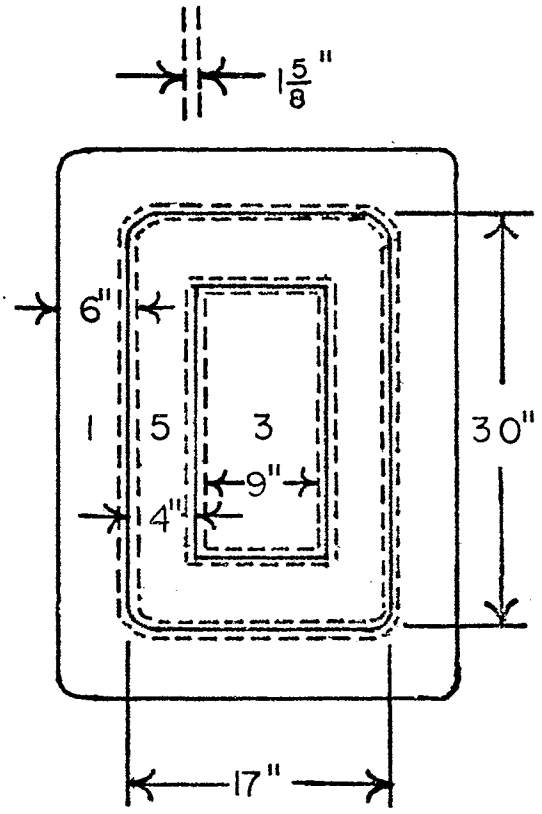
If you had to choose between doing an activity with members of the group which threw today or doing an activity with a person or people outside the group, which would you choose?_____

APPENDIX B

BASEBALL SOCIOGAME -

BACKSTOP

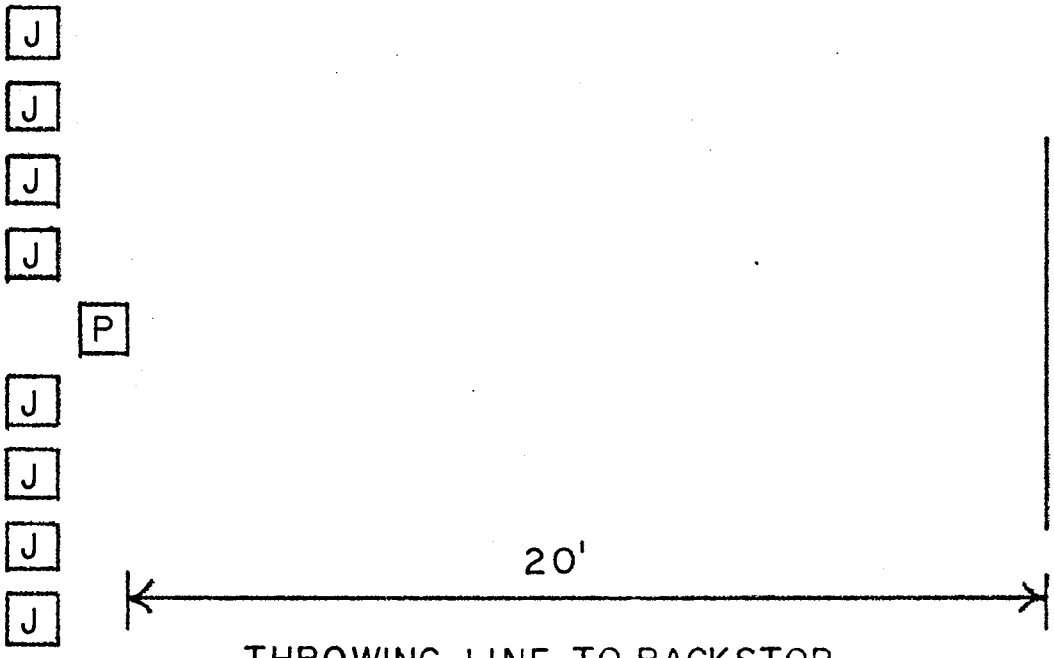
ASSIGNED VALUES



APPENDIX C

BASEBALL SOCIOGAME -

PHYSICAL LAYOUT



Baseball Sociogame—Physical Layout

P PERFORMER

J JUDGES

APPENDIX D

RELATIONSHIPS BETWEEN JUDGMENTAL RANK AND STATUS IN HIGH AND LOW GROUPNESS GROUPS

RELATIONSHIPS BETWEEN JUDGMENTAL RANK AND STATUS IN HIGH AND LOW GROUPNESS GROUPS

Member	J. Error	Status Position (Units - N)	J. Rank
		High Groupness Groups (A & B)	
1	+116	1.375	1
2	+101	0.000	2
3	+ 85	0.125	3
9	+ 55	1.600	4
4	+ 51	0.750	5
5	+ 45	1.375	6
6	+ 34	0.375	7
10	+ 23	0.200	8
7	+ 23	0.000	9
8	+ 18	2.125	10
11	+ 18	1.400	11
12	+ 15	2.200	12
13	+ 8	0.600	13
		Low Groupness Groups (N & P)	
14	+120	3	1
15	+126	4	2
21	+124	6	3
22	+103	4	4

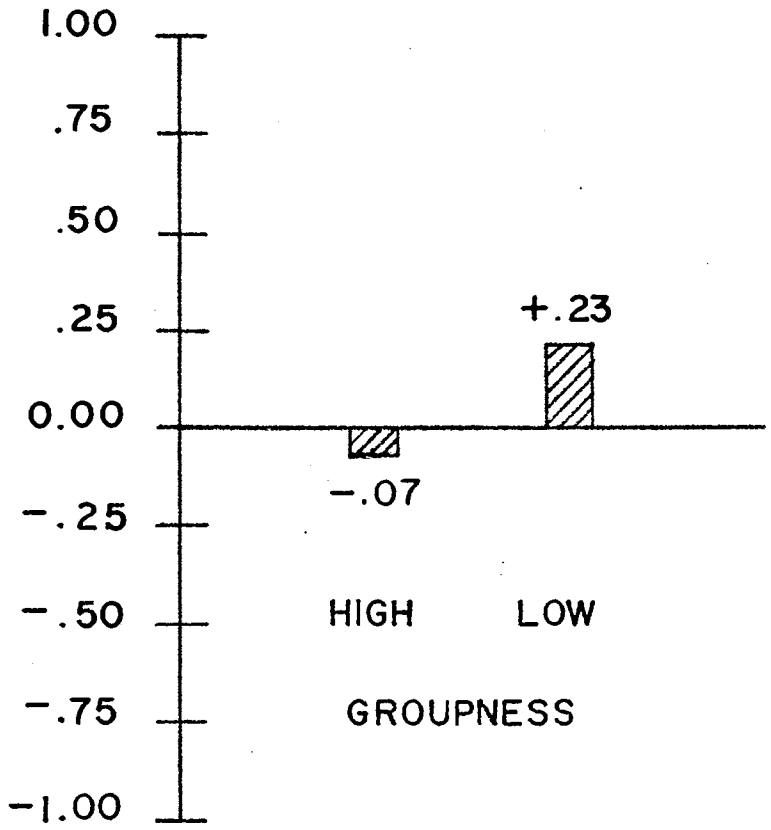
16	+100	2	5
17	+ 83	2	6
23	+ 80	1	7
18	+ 69	12	8
19	+ 61	14	9
24	+ 59	16	10
25	+ 55	1	11
20	+ 43	0	12
26	+ 16	13	13
27	+ 10	1	14

Nongroup Aggregates (C & D)

28	+145	NONE BY DEFINITION	1
29	+132		2
30	+124		3
31	+103		4
32	+ 60		5
33	+ 53		6
34	+ 52		7
35	+ 35		8
36	+123		9
37	+117		10
38	+ 63		11
39	+ 37		12
40	+ 22		13
41	+ 8		14
42	+ 8		15

APPENDIX E

CORRELATIONS (R) BETWEEN JUDGMENTAL RANK AND STATUS



Correlations (r) Between Judgmental Rank and Status

APPENDIX F

JUDGMENTAL ACCURACY BY CATEGORY

JUDGMENTAL ACCURACY BY CATEGORY

Category	N	Total Errors (Regardless of Sign)	Errors Per Member
High groupness	13	635	48.85
Low groupness	14	1190	85.00
Nongroup aggregate	15	1134	75.60

VITA

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Master of Science

Thesis: A BASEBALL SOCIOGAME AS A NON-REACTIVE MEASURE OF GROUP PROPERTIES

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